T. Rowe Price
INVESTOR®
STRATEGIES FOR INFORMED INVESTORS

Why Diversify

A range of investments can help you limit risks and gain exposure to opportunities. 6

SUMMER 2018
TROWEPRICE.COM

TAKE NOTE INSIDE
Following page 10

Welcome Shareholder

Our firm's founder, Thomas Rowe Price, Jr., often said, "Change is the investor's only certainty." When the market becomes increasingly volatile, as experienced during the first half of 2018, we're reminded of Mr. Price's astute observation.

And while no one can control the changing market and its inevitable fluctuations, one thing we can control is where we invest our assets. In our cover story, "Why Diversify," we explore the importance of investing in a mix of securities within various asset classes.

Among other stories, we offer one about steps to take when saving for shorter-term goals, and another with suggestions on how to start a conversation with your adult children about your future.

We hope this issue provides actionable insights to help you make decisions about the things within your control.

Sincerely,

Edward C. Bernard

Edward C. Bernard
Chairman, T. Rowe Price Investment Services

IN THIS ISSUE

3

12

18

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*Call **1-800-401-1788** to request a prospectus or summary prospectus; each includes investment objectives, risks, fees, expenses, and other information that you should read and consider carefully before investing. All data included in this issue are as of 3/31/18, unless otherwise indicated. For up-to-date standardized returns, visit **troweprice.com/performance**.*

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PERSONAL FINANCE

Saving for Shorter-Term Goals

Taking these actions can help you achieve your near-term financial objectives.

1. Set your goal and time horizon. Establishing your time horizon—when you'll need the money—is an essential first step in setting up a short-term savings plan.

2. Determine your asset allocation. Keep all or most of your savings in investments likely to hold their value over a short period, such as money market securities or short-term bond mutual funds. If your time horizon is three years or longer, consider allocating a small portion to equities.

3. Invest money regularly. If possible, have a set amount deducted automatically from your bank account or paycheck to help you save consistently.

What's your goal?

VACATION
$3,500

$583
per month for 6 months[1]

Months 1–6
100% short-term investments

EMERGENCY FUND
$20,000

$829
per month for 2 years[2]

Years 1–2
100% short-term investments

HOUSE DOWN PAYMENT
$65,000

$1,018
per month for 5 years[3]

Years 1–3
50% fixed income
30% short-term investments
20% equities

Years 4–5
100% short-term investments

Examples are for illustrative purposes only and do not represent any specific investment. All investments involve risk, including possible loss of principal. [1]Assumes a 0.5% average annual rate of return. [2]T. Rowe Price recommends saving 3 to 6 months' worth of expenses in an emergency fund; example uses 4 months of expenses for an individual earning $75,000 per year and monthly expenditures of 80% of income. Assumes a 0.5% average annual rate of return. [3]The figure reflects a 20% down payment for a median-priced home in January 2018 based on U.S. Census data. Assumes a 2.5% average annual rate of return and that all assets are moved to 100% short-term investments at the beginning of year 4.

NEXT STEPS

See a full list of T. Rowe Price funds on **page 19** for investment options to help reach your financial goals.

PHOTOGRAPHS BY WUNDERVISUALS; ROMOLO TAVANI; DPPRODUCTIONS

FOCUS ON

MARKETS & ECONOMY

What's Behind Bitcoin?

Looking past the media hype to learn more about the technology that is powering cryptocurrencies.

Bitcoin and other cryptocurrencies became the focus of the financial world in late 2017 as the price of bitcoin, the most prominent cryptocurrency, climbed from $2,547 at the end of June to a peak of over $19,000 in December. Interest in the new currency had risen to the point that T. Rowe Price Portfolio Manager Henry Ellenbogen commented that he had received 10 times as many inquiries about bitcoin than about the stock market during the holiday season.

Although the value of bitcoin has dropped, virtual currencies have continued to attract increasing attention from the media and regulators. T. Rowe Price portfolio managers currently do not hold any cryptocurrencies in their investment strategies because of their speculative nature. That said, we have been carefully following the topic because we believe blockchain, the technology that is powering them, has economic potential that could far exceed the value of the new currencies.

Blockchain technology

Bitcoin, and all the virtual currencies that have followed it, uses a technology called blockchain. At its simplest level, blockchain can be thought of as a new—and potentially better—spreadsheet, something like a shared Microsoft or Google document that is populated with confirmed and encrypted entries. It is commonly referred to as distributed ledger technology.

When someone initiates a transaction using blockchain technology, the request is broadcast to a decentralized network of thousands of computers known as "nodes." (See "The Process and the Promise of Blockchain.") Once validated by the network, the transaction is added to other previous transactions, becoming another block added to the existing chain. The transaction is encrypted to be permanent, unalterable, and complete. Blockchain was designed to be fully transparent and public, allowing users to conduct transactions without middlemen.

Unlocking its potential

Many companies—both large, established firms as well as small startups—are seeking to put this technology to work in a variety of industries based on its potential as a digital alternative to manual, time-consuming processes. Perhaps not surprisingly, blockchain holds a great deal of interest in the banking, payment processing, and financial services industries.

For example, Barclays is working on adopting blockchain technology to make its banking operations faster and more secure, while Visa has launched a new product that facilitates international business-to-business payments. At T. Rowe Price, we are involved in a pilot program that uses Bankchain, a post-trade settlement platform powered by blockchain. The system has the potential to streamline the post-trade process and provide cost savings and operational efficiencies.

The list of industries pursuing blockchain opportunities seems to get longer every day. A few examples include: cloud computing, cybersecurity, and supply chain management.

PHOTOGRAPH BY SOUTH_AGENCY

Acknowledging its limitations

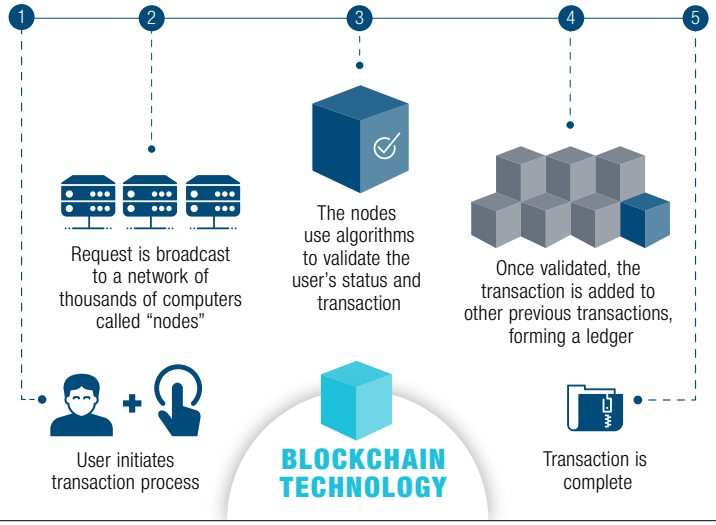
Though the potential is great, blockchain has limitations. As with all software, the warning "garbage in, garbage out" holds true. The information going into the database needs to be of high quality so that transactions are accurately recorded.

Speed also can be an issue. The process used to get consensus and verify transactions is purposely designed to take time—currently, the bitcoin blockchain can only process seven transactions per second. By comparison, Visa processed 1,700 transactions per second in 2016. Delays could be a significant obstacle for fast-paced transactions, such as securities trading. Moreover, without a widely distributed grid of nodes, a blockchain network could be susceptible to hacking attempts.

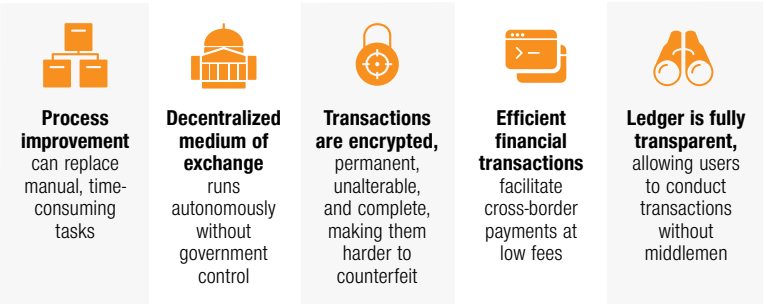
We believe it is important to look beyond the headlines about the gyrations in bitcoin's price and focus on the technology that is driving it. Our analysts have been working diligently to understand how blockchain can disrupt industries, and they are looking for investment opportunities in companies that can find a way to efficiently use this potentially transformative technology. ■

The Process and the Promise of Blockchain

How the technology works



The benefits it could bring to companies



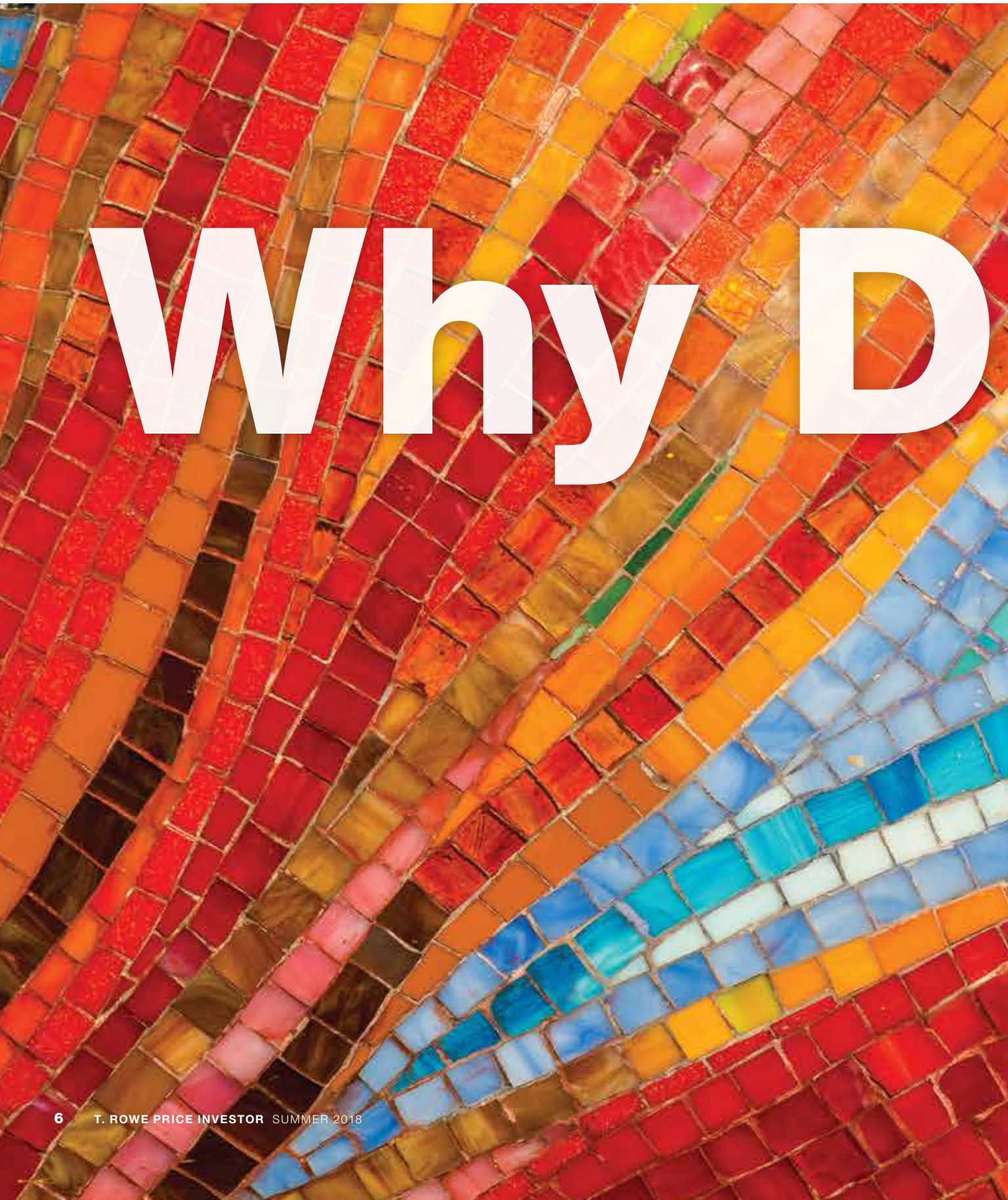
Source: T. Rowe Price analysis.

The information presented herein is shown for illustrative, informational purposes only.

NEXT STEPS

Gain valuable perspective on the markets at **troweprice.com/insights**.

The specific securities/companies/products and services identified and described do not necessarily represent securities/companies/products and services purchased or sold by T. Rowe Price. No assumptions should be made that the securities/companies/products and services identified and discussed were or will be profitable.



Why D

iversify

A range of investments can help you limit risks and gain exposure to opportunities.

Varying forces and events contribute to the inevitable ups and downs in the market. And while no one can predict or control these fluctuations, you can control where you allocate your investments. Doing so can help ensure that your assets are invested appropriately for your age and financial goals.

Establish the proper asset allocation for your goals

Your first step in constructing a well-diversified portfolio is establishing an appropriate mix of investments. For each of your financial goals, determine how

PHOTOGRAPH BY TUPIKOV

KEY POINTS

- A well-diversified portfolio begins with establishing an appropriate asset allocation.
- Choosing investments across sectors, sizes, and geographic regions can help manage portfolio volatility.
- Mutual funds offer a convenient path to building a diversified portfolio.

10.2%
The average annual gain for stocks from 1926 through 2017.

to divide your assets among stocks, bonds, and short-term holdings, based on your time horizon and risk tolerance.

Long-term goals (e.g., retirement) Savings should have an appropriate allocation to stocks to take advantage of the long-term growth potential of this asset class. From 1926 through 2017, stocks averaged a 10.2% annual gain, compared with an average annual return of 5.1% for bonds.* *Past performance cannot guarantee future results.* As you get closer to achieving your goal, the allocation to stocks should decrease as you emphasize less volatile investments, such as bonds and short-term holdings. (See "Asset Allocation for Retirement.")

Short-term goals (e.g., emergency fund) Savings should be held in stable assets, such as money market investments, that will help protect your portfolio from downside volatility. (See Facts + Figures on page 3.)

Diversify within asset classes

Once you have established the appropriate asset allocation for a particular goal, you must ensure you are widely diversified within each asset class at the sub-asset class level. Of course, diversification cannot assure a profit or protect against loss in a declining market.

There are many sub-asset class categories to consider—including sectors, geographic regions, and market capitalizations. To benefit as much as possible from diversification, you should seek exposure to a spectrum of options within the following:

Sectors and businesses Broad exposure to an array of sectors limits the possibility that a downturn in any one industry might reduce the long-term growth potential of your portfolio. Owning stocks in a wide variety of companies can help to shield against business risk—the possibility that a company will have lower-than-expected profits or a loss. Diversification at the sector and business level also helps to ensure that your portfolio will benefit if a particular sector or business performs strongly.

Regions Exposure to multiple regions also can put your portfolio in a position to benefit from those economies that are performing well.

- **International stocks**
  The globalization of markets has prompted investors to shift their attention further afield as they look to diversify their holdings. The reason: Not all regions respond to economic conditions in the same way. For example, emerging economies (MSCI Emerging Markets Index) gained 37.8% in 2017, while Russian stocks (MSCI Russia Index) rose only 6.1%. In the U.S., the S&P 500 Index gained 21.8%.

- **International bonds**
  The complexity and number of fixed income offerings has grown substantially in recent years—60% of global fixed income securities are now offered by countries other than the United States. Exposure to bonds in emerging markets can help increase a portfolio's yield, while

exposure to bonds of other developed economies can help smooth any volatility that results from a U.S.-focused portfolio.

Note that international investments are subject to market risk, as well as risks associated with unfavorable currency exchange rates and political or economic uncertainty abroad.

Capitalization Small-cap stocks generally are more volatile, with greater potential for growth, while companies with larger capitalizations offer greater stability and more measured growth expectations. Diversifying across the full range of small, medium, and large companies can help your portfolio benefit from shifts in business and economic cycles, which may favor different-sized companies at different points in time.

Bond types The bond portion of a portfolio might include corporate, high yield, and international bonds as well as government bonds from a variety of countries and regions. Investing in several bond types with different investment strategies can help cushion the effects of interest rate risk and credit risk on your overall portfolio, a goal that can be achieved by investing in a diversified mutual fund.

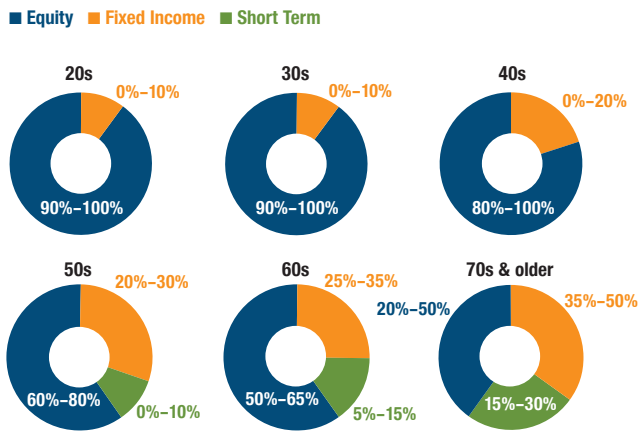
Diversify through mutual funds A broadly diversified portfolio should include a variety of investments in three asset classes, depending on the time horizon of your goal and your risk tolerance. The challenge lies in achieving and maintaining this level of diversification throughout your portfolio and over time.

Mutual funds offer built-in diversification because they generally hold dozens to hundreds of investments

PHOTOGRAPH BY TUPIKOV

Asset Allocation for Retirement

Consider these retirement asset allocation models at different ages.



Within Equity: 60% U.S. Large-Cap, 25% Developed International, 10% U.S. Small-Cap, 5% Emerging Markets

Within Fixed Income: 70% U.S. Investment-Grade, 10% High Yield, 10% International, 10% Emerging Markets

Within Short Term: 100% Money Market Securities, Certificates of Deposit, Bank Accounts, and/or Short-Term Bonds

These allocations are age-based only and do not take risk tolerance into account. Our asset allocation models are designed to meet the needs of a hypothetical investor with an assumed retirement age of 65 and a withdrawal horizon of 30 years.

The model asset allocations are based upon analysis that seeks to balance long-term return potential with anticipated short-term volatility. The model reflects our view of appropriate levels of trade-off between potential return and short-term volatility for investors of certain ages or time frames. The longer the time frame for investing, the higher the allocation is to equities (and the higher the short-term volatility) versus fixed income or short-term investments.

Limitations

While the asset allocation models have been designed with reasonable assumptions and methods, the chart provides models based on the needs of hypothetical investors only and has certain limitations:

- The models do not take into account individual circumstances or preferences and/or may not align with your accumulation time frame, withdrawal horizon, or view of the appropriate levels of trade-off between potential return and short-term volatility.
- Investing consistent with a model allocation does not protect against losses or guarantee future results.

Please be sure to take other assets, income, and investments into consideration when evaluating model allocations. Other T. Rowe Price educational tools or advice services use different assumptions and methods and may yield different outcomes.

To benefit as much as possible from diversification, you should seek exposure to a spectrum of options.

aligned with a particular theme or goal. Furthermore, with actively managed funds, teams of investment professionals that include portfolio managers and analysts make decisions seeking to optimize the balance of holdings within the fund. These decisions are based on thorough analysis of market conditions and security valuations that may not be apparent without research, accessibility, and expertise. Investment teams decide how the holdings in the fund affect its overall balance.

Keep your portfolio balanced

To manage your overall investment portfolio on your own, look for sectors, geographic regions, and market capitalizations that are underrepresented in your portfolio. And be sure not to neglect diversification in the fixed income portion of your holdings. If you're underweight in one category, you have too much exposure to another. Correcting this imbalance is important because it lowers your exposure to sectors that have risen comparatively in value and increases your exposure to those that have declined—and that action helps you maintain a portfolio that is properly allocated and diversified. Not only can rebalancing lock in gains, it will keep you well positioned to balance market risks with growth potential.

Market volatility is a constant for every investor. That's why you need to maintain your investment strategy and remember the market's record of long-term growth. Investing in a diverse mix of securities according to a purposeful asset allocation plan can help expand opportunities and minimize risks of overexposure to one particular area of the market. ■

NEXT STEPS

To use our Investment Allocation Tool, log in to your account at **troweprice.com/allocationtool**.

*Sources: Stocks are represented by the Ibbotson SBBI U.S. Large-Cap Stock TR USD and bonds by returns of the IA SBBI U.S. IT Government TR USD.

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T. Rowe Price
TAKE NOTE

Generating
Tax-Free Income
A6

PHOTOGRAPH BY MICHAEL HEIMLICH

Tax Reform Takeaways

The new tax law highlights the importance of a flexible investing strategy.

The U.S. tax reform measure that passed in December 2017 could have wide-reaching effects on financial planning decisions for millions of Americans. As investors consider the changes, it's important to remember that a strategy based on fundamental planning principles still offers the best path to success.

Among the biggest changes in the measure is a dramatic reduction in tax rates for corporations and closely held businesses. This means that business owners, including corporate shareholders, will be able to keep more of their businesses' profits.

The tax measure benefits many individuals as well. First, it reduces marginal tax rates for individuals at most income

levels (see "Individual Marginal Tax Rates"), which means many people can expect to see lower tax bills over the next eight years. The tax measure also impacts individual tax deductions in ways that make it more likely that taxpayers will use the standard deduction instead of itemizing.

Revisit your investment strategy

Taxpayers may want to think about ways to optimize their investing under the plan. Here are four key takeaways to consider:

1. Look for tax diversification

One way to reduce the impact of tax changes on your retirement savings is to diversify the tax treatment of your money. This means having assets in accounts with differing tax structures. If you expect your tax rates will be higher when you withdraw money from your accounts during retirement, a Roth account with tax-free withdrawals may be more attractive than a traditional pretax account. Even for investors who are not sure what their future tax status will be, Roth assets can be a hedge against higher postretirement tax rates.

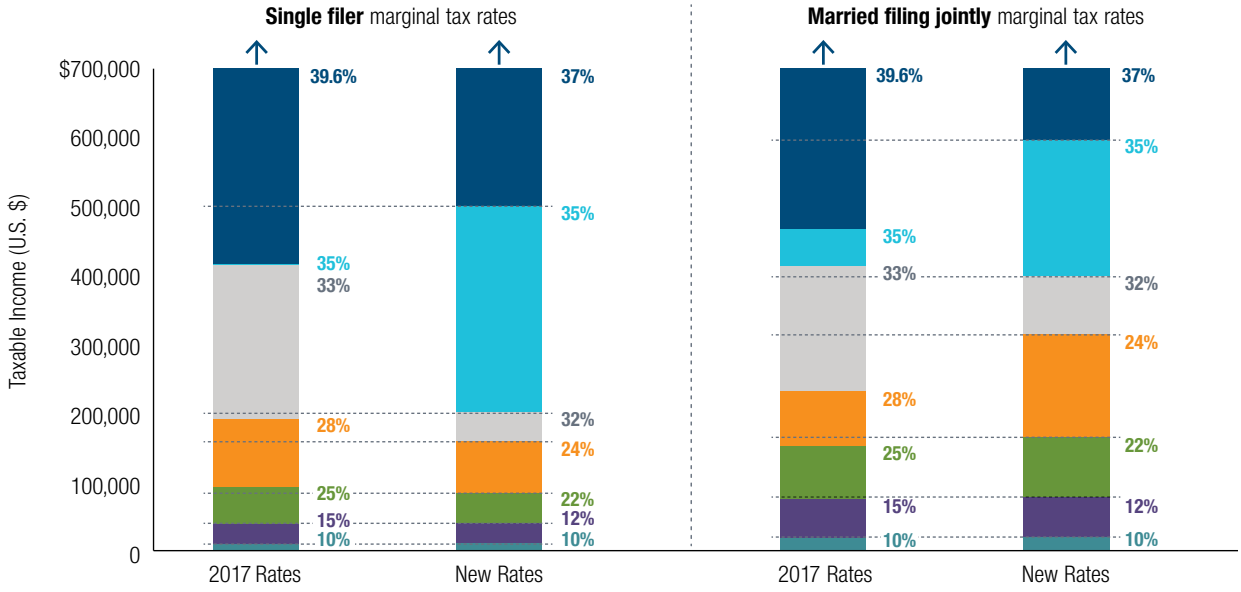
2. Keep saving

If you are paying less in taxes now, you may have more money to save toward your retirement goals. This could allow you to boost your retirement savings, targeting 15% or more of your current salary (including any employer match).

Another impact to remember is that reduced tax revenues will put pressure on the federal budget. It is hard to predict what those changes might be and whether they would affect benefits like Social Security and Medicare. However, the possibility of change highlights how important it is for savers to control their own financial futures. Many investors rely on their own savings plus Social Security to fund a retirement that could last decades.

Individual Marginal Tax Rates

Many taxpayers are seeing lower rates in 2018.



Source: U.S. tax reform measure.

Notes: Dotted lines represent the new tax bracket boundaries. For single filers, those bracket boundaries are $9,525; $38,700; $82,500; $157,500; $200,000; and $500,000. For married filing jointly, those bracket boundaries are $19,050; $77,400; $165,000; $315,000; $400,000; and $600,000.

3. Rebalance your portfolio

It is difficult to predict how tax reform will affect investment markets. That said, long-term strategic investing, with a diversified asset allocation based on each investor's time horizon and risk tolerance, remains the wisest path. A long-term strategy still requires periodic adjustments, however. For example, gains in the equity markets in recent years may have caused asset allocations to drift, leaving investors with more equity exposure than they intended. Rebalancing is a disciplined way to manage investment risk. Consider when you may want to rebalance your portfolios if you haven't done so recently.

4. Consider 529 accounts

The tax overhaul also allows state-sponsored college savings plans (529 plans) to offer tax-free withdrawals up to $10,000 per year per child for qualified elementary and secondary school tuition expenses. Previously, assets in 529 plans could only be used without penalty for higher education expenses. This should be an incentive for individuals to save more for education using 529 plans. Remember to consider your time horizon when choosing among investment options.

Be prepared for more changes

The long-term impact of the measure is uncertain, as many of its provisions for individuals automatically expire after 2025 and would require approval from a future Congress and president to extend them. This means lower tax rates in the near term could be followed by rate increases down the road.

Remember that taxes are only one of many important factors to consider in making financial decisions. A disciplined saving and investing approach, along with investment and tax diversification, can help you meet your financial goals. Consult with your tax advisor about how the changes will affect your particular situation.

PHOTOGRAPH BY ROMAN S. (3DBOBBER)

Considerations for small businesses or sole proprietors

The tax measure allows some business owners who report net business income on their individual tax returns to deduct 20% of that income (known as pass-through income). The rules around this provision will be complicated, and deductibility starts to phase out for some businesses at $315,000 of income (for a married couple filing jointly). However, if taxpayers have been considering starting their own businesses, the lower effective tax rate could improve future financial projections and make entrepreneurship more attractive.

The lower effective tax rate on pass-through income also may affect how many business owners think about retirement investing. The marginal tax rates they face today could be lower than the rates they will face when taking distributions after retirement (since those withdrawals will be taxed as ordinary income). One strategy for small business owners to consider is making sure their company (or solo) 401(k) plans have a Roth option.

Summary of Changes in the U.S. Tax Reform Measure

Many areas of the tax law are affected.

Provision	2017 Law	Tax Reform Changes
Individual tax rates	Seven brackets, with top individual rate of 39.6%.	Seven brackets with rates generally the same as, or lower than, 2017 rates. Top individual rate of 37%. Rates (and most other individual tax provisions) revert to 2017 law after 2025.
Personal exemptions, standard deduction	Personal exemption of $4,050 per person, subject to income limits. Standard deduction (for taxpayers who do not itemize) of $6,350 for single filers, $12,700 for married filing jointly.	Personal exemption eliminated. Standard deduction of $12,000 for single filers, $24,000 for married filing jointly. (Expires after 2025.)
Child tax credit	Child tax credit up to $1,000, phased out for higher income levels.	Child tax credit up to $2,000 with significantly higher phaseout levels. Credit for other dependents up to $500. (Expires after 2025.)
Alternative minimum tax (AMT)	A parallel tax system to the regular tax system with its own definition of taxable income, exemptions, and tax rates.	Repeals corporate AMT. Retains individual AMT with higher exemption and phaseout thresholds, intended to reduce the number of households affected. (Expires after 2025.)
Capital gains and dividends	Capital gains and qualified dividend income are taxed at 0%, 15%, or 20%, depending on taxable income.	No change to the tax rates applicable to capital gains and qualified dividend income.
Mortgage interest deduction	Deductibility of interest on mortgage principal up to $1 million (principal residence and one other). Interest on home equity debt up to $100,000 may be deductible.	Deductibility limited to interest on $750,000 of principal for new mortgages. Deductibility of home equity interest (including existing indebtedness) eliminated. (Expires after 2025.)
State and local tax deduction	Deduction allowed for state/local property taxes and state income taxes (or sales tax, if higher).	Maximum combined $10,000 deduction for state and local taxes ($5,000 if married filing separately). (Expires after 2025.)
Medical expense deduction	Deductible for eligible expenses exceeding 10% of adjusted gross income (AGI).	Reduces threshold to 7.5% of AGI for tax years 2017 and 2018, then reverts to 10%.
Charitable contribution deduction	Deductible, subject to limits based on income.	Still deductible. Deduction limit for cash contributions to public charities increased from 50% of income to 60%.

PHOTOGRAPH BY ROMAN S. (3DBOBBER)

Provision	2017 Law	Tax Reform Changes
Other itemized deductions	Variety of miscellaneous itemized deductions allowable to the extent exceeding 2% of AGI.	All deductions subject to 2% AGI floor are repealed. Moving expenses no longer deductible. Alimony payments no longer deductible for payor (or included in income for recipient) for divorces finalized after 12/31/18. (Expires after 2025.)
Qualified distributions from 529 plans	Distributions used for qualified higher education expenses (college) not includible in income. Expenses for K-12 education do not qualify.	Allows 529 plans to be used for elementary and secondary education tuition expenses, up to $10,000 per beneficiary per year.
Requirement to purchase health insurance (individual mandate)	The Affordable Care Act imposes a penalty based on family size and household income for people without health coverage.	Penalties are eliminated starting in 2019. (Expires after 2025.)
Roth IRA conversions and recharacterizations	Recharacterization allows you to "undo" or "reverse" a conversion to a Roth IRA.	Repeals rules that allow individuals to recharacterize Roth IRA conversions.
Estate tax	Assets up to $5.49 million (individual) and $10.98 million (married couple) are exempt, indexed for inflation.	Doubles exemption. (Expires after 2025.)
Corporate rate	35% maximum rate.	21% flat rate.
Corporate taxes	U.S. companies taxed based on profits earned globally, with complex rules.	Significant changes to international taxation rules and deductions (with continued complexity).
Pass-through entities	Income taxed at individual rates for owners (not the business itself).	20% of certain qualified business income for these owners may be deductible from income taxed at individual rates.

Source: U.S. tax reform measure.

NEXT STEPS

For additional tax resources, visit **troweprice.com/taxplanning**.

Generating Tax-Free Income

Municipal bonds offer tax benefits and attractive yield potential to fixed income investors.

Municipal bonds issued by state and local governments provide investors with tax-free income potential and the benefits of diversification—important aspects of a long-term investor's portfolio. Although there have been occasional bouts of stress for the asset class from factors such as the global financial crisis, concerns about tightening monetary policy, and news about troubled issuers like Detroit and Puerto Rico, investor demand for municipal bonds has been robust in recent years. One reason for munis' staying power: It is rare for a municipality to default or miss an interest or principal payment to bondholders.

What's more, municipal bonds' tax and diversification benefits provide investors with longer-term advantages. "The tax advantages and regular income mean that investors in every tax bracket should consider whether munis might be a good fit for the fixed income portion of their portfolios," says Hugh McGuirk, head of municipal bond investing at T. Rowe Price.

Understanding munis

Municipal bonds are tax-exempt debt obligations issued by cities, counties, states, and other governmental entities. They are used to fund infrastructure projects, essential services, and other projects that serve the public interest. There are two main types of munis: general obligation bonds and revenue bonds. General obligation bonds are backed by the issuer's ability to raise money through taxes and include projects such as schools and roads. Revenue bonds are issued by a government-related entity to fund a particular project, such as an airport or a hospital wing. Interest and

PHOTOGRAPH BY CHRIS PRICE

principal payments to investors in revenue bonds are funded by the revenues generated by that project.

What they offer

Munis provide a potential income stream that is exempt from federal income taxes. Income from munis issued in an investor's home state also typically is exempt from state income taxes. The value of this tax benefit depends on your tax situation and is highest for investors in higher tax brackets or those who live in high-tax jurisdictions. Furthermore, these tax advantages are most useful when munis are held in taxable accounts. The reason: When you compare munis with taxable bonds that offer comparable maturities, munis' yields typically are lower than the pretax yields on taxable bonds. (See "A Primer on Taxable-Equivalent Yield.") It is important to note that some income may be subject to state and local taxes and the federal alternative minimum tax.

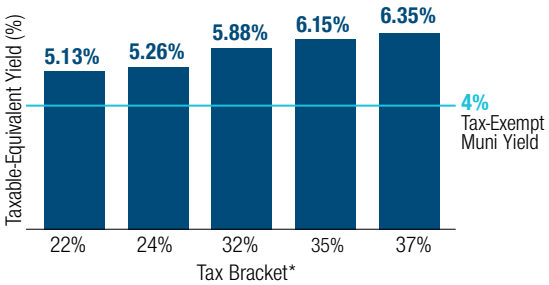
Investors can choose from a diverse array of muni issues, which vary in purpose, maturity, and yield. Consider investing in municipal bond mutual funds—also known as tax-free bond funds—rather than targeting individual securities to achieve greater diversification. Such funds enable investors to benefit from the expertise of professional managers and analysts who perform essential credit research and navigate a changing market effectively. For example, a special team of T. Rowe Price analysts identified Puerto Rico's municipal bond risks a year before the commonwealth's financial problems were widely publicized and long before the bonds were downgraded. Of course, diversification cannot assure a profit or protect against loss in a declining market. All mutual funds are subject to market risk, including possible loss of principal.

Know the risks

Like other investments, municipal bonds carry certain risks. For instance, there is a risk that interest rates will rise, causing bond prices to drop. Although rates have defied expectations and remained below long-term averages in recent years, a stronger economy could lead the Federal Reserve to move rates higher. That said, many of today's muni investors are focused on credit risk, especially in light of headlines about the fiscal problems of Puerto Rico and some other muni bond issuers.

A Primer on Taxable-Equivalent Yield

Municipal bonds offer tax-free income, which means investors are often willing to accept a lower yield compared with the pretax yield on a similar taxable bond. When you are making a decision on how to allocate your investment dollars, make sure you are comparing the right numbers. Select your federal tax bracket to see the pretax yield you would have to earn on a taxable bond to equal a 4% tax-free yield on a municipal bond.



*Does not include the 3.8% Net Investment Income Tax; see irs.gov for more information.

> **The tax-free income generated by munis can benefit investors in all tax brackets. Munis can also provide valuable diversification benefits in an investment portfolio."**
>
> – **HUGH MCGUIRK**, HEAD OF MUNICIPAL BOND INVESTING

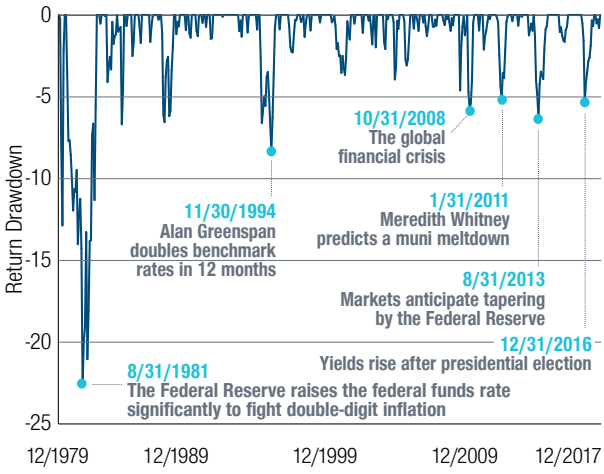
Credit risk represents the potential that a bond issuer will fail to make timely interest and principal payments to its bondholders, thereby resulting in a default. Municipal bankruptcies have been rare, though, and when defaults have occurred, they represented a minuscule portion of a large market. In a study by Moody's Investors Service, the ratings agency found that the 10-year cumulative default rate for all rated municipal credits was 0.15% over the 1970–2015 period. In contrast, the cumulative default rate for all rated corporate issuers was 10.16%. What's more, the muni market typically recovers quickly following an event that pushes investors away from munis. (See "Muni Bond Sell-Off and Recovery.")

Although the market is overwhelmingly high quality, many states and municipalities are struggling with underfunded pensions and other post-employment benefit (OPEB) obligations, and the market has begun to price in higher pension risks as the magnitude of unfunded liabilities becomes more conspicuous. As a result, T. Rowe Price portfolio managers favor bonds backed by a dedicated revenue stream over general obligation bonds, as revenue bonds have less exposure to the pension funding concerns facing state and local governments.

Regardless of market conditions, municipal bonds continue to play an important role in a well-designed fixed income portfolio. "The tax-free income generated by munis can benefit investors in all tax brackets," McGuirk says. "Munis can also provide valuable diversification benefits in an investment portfolio." ■

Muni Bond Sell-Off and Recovery

Market forces can prompt investors to sell off their muni holdings, as the chart below demonstrates. However, the muni market has been resilient, bouncing back quickly after such events.



Source: Bloomberg Barclays Municipal Bond Return Drawdowns.

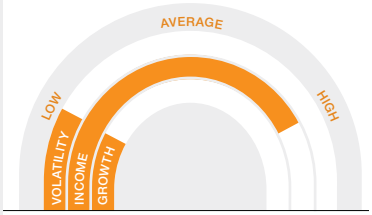
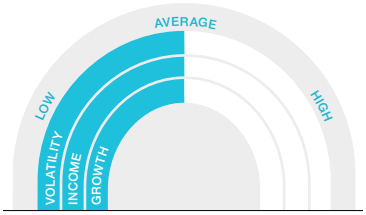
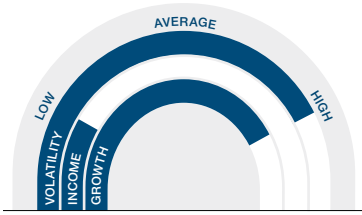
NEXT STEPS

Visit **troweprice.com/bondfunds** for more information on T. Rowe Price fixed income investments.

ASSET ALLOCATION

Mutual Funds for Retirees

Depending on your goal for the assets, there are T. Rowe Price asset allocation funds to meet your needs.

GOAL	 **INCOME** Generate income to cover my recurring expenses	 **BALANCE** Invest assets for my future use or to pass to beneficiaries	 **GROWTH** Grow assets as much as possible to pass to my beneficiaries
INVESTMENT PREFERENCES			
INVESTMENT PATH	**Income Funds** Emphasize income over capital growth	**Balanced Funds** Emphasize both capital growth and income	**Growth Funds** Emphasize capital growth over income
FUNDS TO EXPLORE	■ Personal Strategy Income ■ Spectrum Income	■ Balanced ■ Global Allocation ■ Personal Strategy Balanced	■ Personal Strategy Growth ■ Spectrum Growth ■ Spectrum International

NEXT STEPS

Visit **troweprice.com/assetallocation** to learn more about the T. Rowe Price asset allocation funds.

Investing in stocks involves the risk of declining share prices. Investing in bonds is subject to interest rate and credit risk. Investments overseas generally carry more risk than investments in U.S. assets, including unfavorable currency exchange rates and political or economic uncertainty abroad. All mutual funds are subject to market risk, including possible loss of principal.

PHOTOGRAPHS BY PIXELHEADPHOTO; ALDOMURILLO; M_A_Y_A

RETIREMENT SAVINGS

Roth IRA Turns

Investors of all ages may be able to benefit from Roth IRAs.

The Roth IRA was established 20 years ago, and it has grown in popularity over the past two decades. "With recent changes to tax law temporarily reducing marginal rates for many individuals, Roth accounts may be an even more attractive option to a wider group of investors," says Judith Ward, CFP®, a senior financial planner with T. Rowe Price.

The birth of Roth IRAs

Roth IRAs were established by the Taxpayer Relief Act of 1997. Named for the legislation's sponsor, the late Sen. William V. Roth, Jr., of Delaware, this new type of IRA would be funded with after-tax dollars to help Americans save for retirement without impacting government revenue.

Roth IRAs gained interest from the start among those meeting income eligibility requirements. According to the Investment Company Institute (ICI), contributions totaled $8.6 billion in 1998, with another $39.3 billion converted from Traditional IRAs. By the end of 2016, Roth IRA assets reached $660 billion.[1]

The conversion opportunity

While there are still income limitations on Roth IRA contributions, in 2010, the income cap was lifted from Roth conversions. Since then, all investors who have existing Traditional IRAs can convert those assets to take advantage of Roth IRA benefits, regardless of income. Remember that any amount converted to a Roth IRA is considered taxable income in the year of the conversion.

A Roth IRA provides a tax-free source of income throughout retirement or to pass along to heirs. It also eliminates required minimum distributions (RMDs) for the original Roth IRA owner. Be sure to consider your specific financial situation when assessing the value of Roth IRAs as part of your overall retirement portfolio. ■

PHOTOGRAPH BY RUTH BLACK

20

Is a Roth IRA right for you?

"Generally, contributing to a Roth IRA can be a good choice if you don't expect your tax bracket to decrease in retirement or if you already have significant Traditional assets and won't need all those funds for income," says Ward. Benefits of Roth IRAs include:

Tax-free income

- Contributions can be withdrawn at any time, penalty- and tax-free
- Earnings can be withdrawn penalty- and tax-free if you've held the account at least five years and are age 59½ or older
- Heirs also receive tax-free distributions

Flexibility

- No RMDs for the original owner
- You can contribute at any age if you have earned income and meet eligibility requirements

If you have earned income and meet certain income requirements, you can contribute up to

$5,500 ($6,500 if age 50 or older) for tax year **2018**.

Remember, Roth IRA contributions are not tax-deductible. Following are the 2018 income limits:

Single or head of household

- Full contribution allowed if modified adjusted gross income (MAGI) is less than $120,000
- Partial contribution if MAGI is $120,000 or more but less than $135,000

Married, filing jointly

- Full contribution allowed if MAGI is less than $189,000
- Partial contribution if MAGI is $189,000 or more but less than $199,000

Roth option within a 401(k)[2]

In 2006, designated Roth contributions were allowed in workplace 401(k) and 403(b) plans (as well as in governmental 457 plans in 2010). Designated Roth accounts in 401(k)s offer many of the benefits provided by Roth IRAs—with a few key differences:

- Potential for matching employer contributions[3]
- Contribution limit of **$18,500** ($24,500 if age 50 or older) for **2018**
- Eligibility for all individuals (no income limitations)
- Generally, RMDs beginning at age 70½, unless rolled over into a Roth IRA

[1]ICI, July 2017.

[2]Offered by many employers. Specific plan provisions may apply.

[3]Employer contributions typically are made to the pretax source in the employee's 401(k) plan and are taxed upon withdrawal.

NEXT STEPS

For more on Roth IRAs, visit **troweprice.com/rothira**.

PERSONAL FINANCE

Family Conversations

Talking with your adult children about your future can benefit the whole family.

As you prepare for the later years of your life, you may want to involve your grown children in the conversation, since your plans can have an impact on their future as well as yours. "There are so many financial decisions that need to be made in retirement and so much information to handle," says Stuart Ritter, CFP®, a senior financial planner with T. Rowe Price. "It's a good idea for parents to discuss these matters openly with their adult children before any needs arise."

Getting started

Consider the following suggestions for beginning this discussion with your children:

- **Speak in person**, at times of low stress, preferably while you're healthy.
- **Lead the discussion.** Provide them with only as much information as you feel comfortable sharing, and find out how involved they'd like to be. Explain that they may be able to help you make your retirement planning decisions, while respecting your right to accept or decline their ideas.
- **Consider addressing your living arrangements.** Tell them how long you plan to live in your current home and what you are considering doing about housing if your situation changes.

Setting an agenda

Covering these subjects can help you stay on track as you talk with your family:

- **The location of important documents**, including lists of financial providers and doctors. Compile documents, names, phone numbers, and addresses in a binder or on your computer.

69% of parents have some reluctance about discussing financial matters with their grown children.*

PHOTOGRAPH BY KRISTIAN SEKULIC

> **We all sat down, had a meeting, went over my parents' will and accounts—it felt good to know and gave us a sense of peace.**
>
> – T. ROWE PRICE RESEARCH PARTICIPANT*

Keep them in a safe place, and let your children know how to access the information.

- **Your will and/or trusts.** Make sure you have an up-to-date will and that you've reviewed it within the last several years to accommodate any changes in your family or your wishes. If you have any trusts, determine whether they still meet your needs by talking with an attorney.

- **Durable powers of attorney.** These documents enable you to give a specified person the authority to make decisions on your behalf if you're incapacitated. You and your spouse each should have one for both finances and health care. It's often a good idea to add powers of attorney to your investment accounts as well.

- **Long-term care arrangements.** Long-term adult day or nursing care can be expensive: upward of $200 per day and considerably more in many parts of the country. If you don't have long-term care insurance and you're already in your late 60s or older, discuss what role your children might play if such care is ever needed.

- **Financial information and decisions.** Review your financial situation with your children to be sure you haven't missed strategies that could save you money or maximize your income. For example, you may benefit from waiting to start Social Security benefits.

It's important to remember that you don't have to solve everything or share the information all at once. "The conversations may be very new and different for all of you—both financially and emotionally," says Ritter. "Taking the time for an honest and open dialogue ultimately will provide everyone with greater peace of mind." ■

NEXT STEPS
To learn more about creating a long-term plan for your assets, visit **troweprice.com/estateplanning**.

*2017 T. Rowe Price research included 50 individuals.

Tips for Adult Children

Taking these steps can make a difference as your parents get older.

- **Increase your emergency fund.** Having more money available can help in the near term if you need to travel or take time from work to help your parents.

- **Consider the roles your siblings could play.** Brothers and sisters who live near your parents could drive them to doctors' offices or assist with chores, while a sibling who lives farther away might handle monthly bill paying.

- **Talk with your parents.** While you don't need to know account details, be sure your parents have a solid estate plan, including wills, trusts, and beneficiary designations.

T. Rowe Price Funds Earn Top Stars

Because of our disciplined approach to investing, Morningstar, a leader in independent investment research, recognized many of our mutual funds with its highest ratings in the funds' respective categories. As of March 31, 2018, 76 of 120 of our rated funds (Investor Class only) have earned an Overall Morningstar Rating™ of 4 or 5 stars—5 stars being the highest.* ***Past performance cannot guarantee future results.*** ■

NEXT STEPS
Visit **troweprice.com/morningstar** to explore our selection of Morningstar 4- and 5-star-rated funds.

All mutual funds are subject to market risk, including possible loss of principal.

*Morningstar gives its best ratings of 4 or 5 stars to the top 32.5% of all funds (of the 32.5%, 22.5% get 4 stars and 10% get 5 stars) based on their risk-adjusted returns. The Overall Morningstar Rating™ is derived from a weighted average of the performance figures associated with a fund's 3-, 5-, and 10-year (if applicable) Morningstar Rating™ metrics.

The Morningstar Rating™ for funds, or "star rating," is calculated for funds with at least a 3-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar risk-adjusted return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star.

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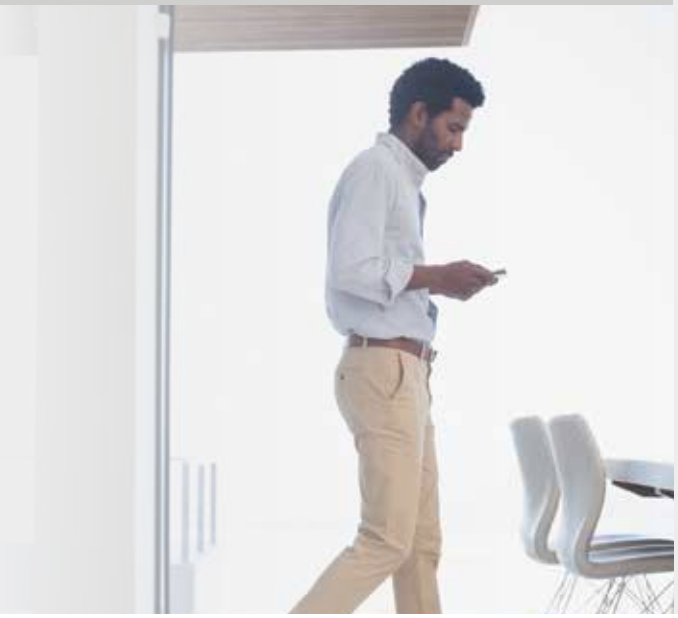
An Easy Way to Save

Our Automatic Asset Builder (AAB) service makes it easy to invest regularly. Just select the T. Rowe Price accounts you want set up with AAB, and the monthly contribution will be funded from your bank account, paycheck, or Social Security check. ■

NEXT STEPS
To get started, log in to your account at **troweprice.com/aab**.



PHOTOGRAPH BY DJANGO

Take Our 30-Second Retirement Challenge

Discover how you compare with our retirement savings guidelines by taking the T. Rowe Price Retirement Challenge. Just tell us three things—your age, your salary, and the amount you have already saved for retirement—and we'll tell you if you're on track. ■

NEXT STEPS
Visit **troweprice.com/30secondchallenge** to get started.

100% of Our Retirement Funds Beat Their 10-Year Lipper Average

In a variety of markets, 100% of our Retirement Funds beat their 10-year Lipper average as of 3/31/18.* So when you choose a T. Rowe Price Retirement Fund, you can feel confident in our experience and expertise. *Past performance cannot guarantee future results.* ■

NEXT STEPS
Visit **troweprice.com/retirementfunds** for more information.

The principal value of the Retirement Funds is not guaranteed at any time, including at or after the target date, which is the approximate year an investor plans to retire (assumed to be age 65) and likely stop making new investments in the fund. If an investor plans to retire significantly earlier or later than age 65, the funds may not be an appropriate investment even if the investor is retiring on or near the target date. The funds' allocations among a broad range of underlying T. Rowe Price stock and bond funds will change over time. The funds emphasize potential capital appreciation during the early phases of retirement asset accumulation, balance the need for appreciation with the need for income as retirement approaches, and focus on supporting an income stream over a long-term postretirement withdrawal horizon. The funds are not designed for a lump-sum redemption at the target date and do not guarantee a particular level of income. The funds maintain a substantial allocation to equities both prior to and after the target date, which can result in greater volatility over shorter time horizons.

*36 of our 39 Retirement Funds had a 10-year track record as of 3/31/18 (includes all share classes). 36 of these 36 funds beat their Lipper average for the 10-year period. 39 of 39, 39 of 39, and 35 of 36 of the Retirement Funds outperformed their Lipper average for the 1-, 3-, and 5-year periods ended 3/31/18, respectively. Calculations are based on cumulative total return. Not all funds outperformed for all periods. (Source for data: Lipper Inc.)

PHOTOGRAPH BY ANDRESR

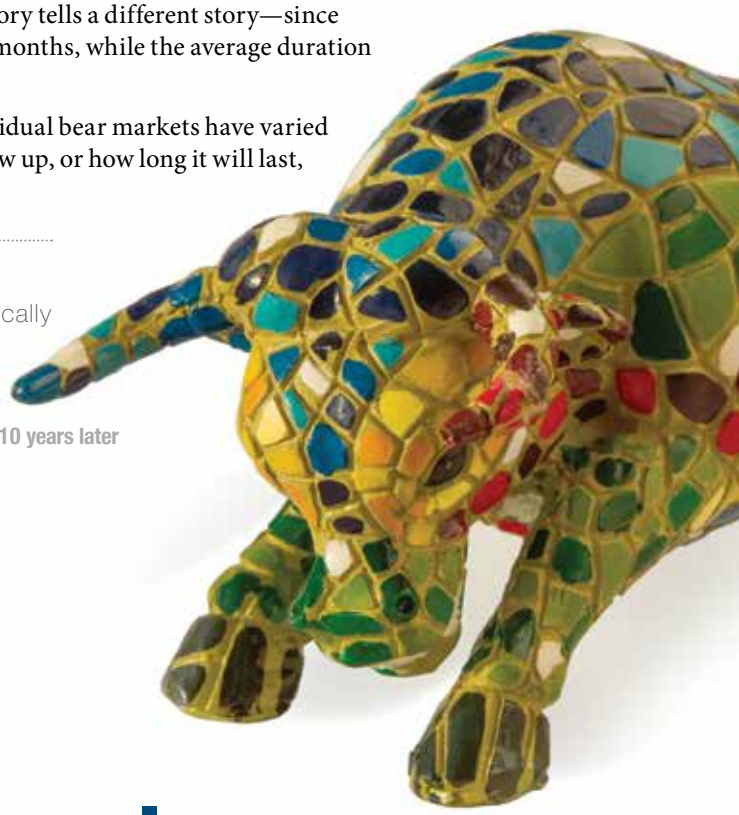
EQUITIES

The Power of the Bull

Historically, bull markets last nearly four times as long as bears.

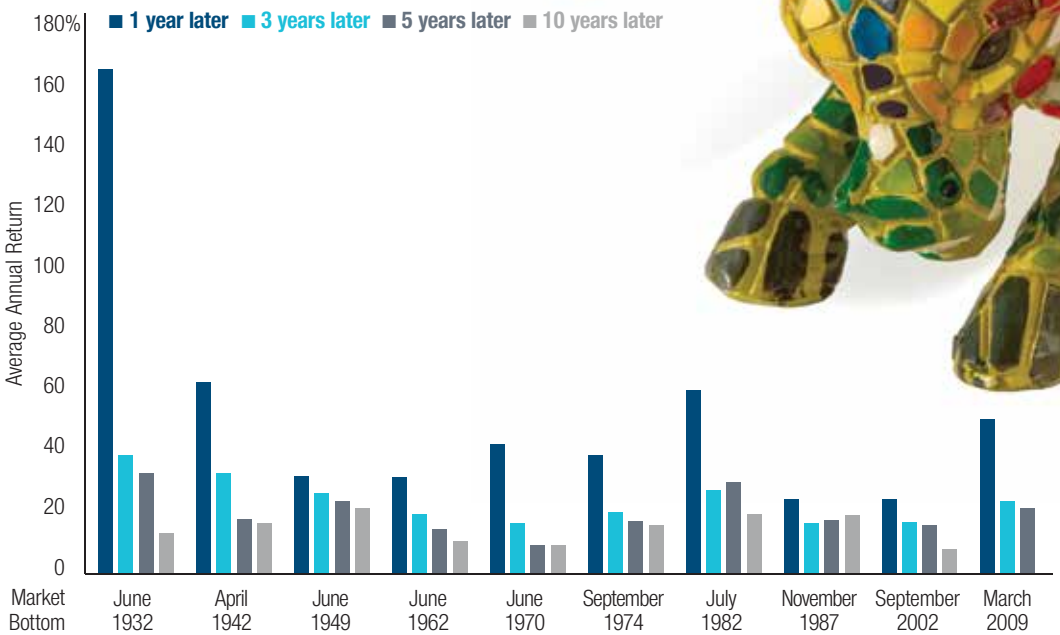
When you think about bull and bear markets, it's easy to assume that they both last for roughly the same amount of time. But history tells a different story—since 1926, on average, bull markets have lasted 82 months, while the average duration of a bear market has been just 23 months.*

Beyond the averages, the duration and magnitude of individual bear markets have varied significantly. Instead of worrying about when a bear will show up, or how long it will last, consider taking the long-term view with your portfolio. ■



Recovery From Bear Markets

The years immediately following a bear market have historically offered strong returns, although *past performance cannot guarantee future results* (1/1/1926–12/31/2017).



Average Return After Bear Market	
1 Year Later	49.0%
3 Years Later	23.7%
5 Years Later	20.0%
10 Years Later	14.7%

NEXT STEPS

Learn more about what's happening in the markets at **troweprice.com/insights**.

Average annual returns of the S&P 500 Index and, prior to 1974, Morningstar SBBI Large Stock.

*Data from FactSet; analysis by T. Rowe Price.

PHOTOGRAPH BY ALINALINA

T. Rowe Price Funds

For detailed information on T. Rowe Price mutual funds, including investment performance, visit **troweprice.com/performance**.

STOCK

Domestic
Blue Chip Growth
Capital Appreciation[1]
Capital Opportunity
Communications & Technology[2]
Diversified Mid-Cap Growth
Dividend Growth
Equity Income
Equity Index 500
Extended Equity Market Index
Financial Services
Growth & Income
Growth Stock
Health Sciences
Mid-Cap Growth[1]
Mid-Cap Value[1]
New America Growth
New Era
New Horizons[1]
QM U.S. Small & Mid-Cap Core Equity
QM U.S. Small-Cap Growth Equity
QM U.S. Value Equity
Real Estate
Science & Technology
Small-Cap Stock[1]
Small-Cap Value
Tax-Efficient Equity
Total Equity Market Index
U.S. Large-Cap Core
Value

International/Global
Africa & Middle East
Asia Opportunities
Emerging Europe
Emerging Markets Stock
Emerging Markets Value Stock
European Stock
Global Consumer
Global Growth Stock
Global Industrials
Global Real Estate
Global Stock
Global Technology[1]
International Concentrated Equity
International Discovery[1]
International Equity Index
International Stock
International Value Equity
Japan
Latin America
New Asia
Overseas Stock
QM Global Equity

ASSET ALLOCATION

Balanced
Global Allocation
Multi-Strategy Total Return
Personal Strategy Balanced
Personal Strategy Growth
Personal Strategy Income
Real Assets
Retirement 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060
Retirement Balanced
Retirement Income 2020[3]
Spectrum Growth
Spectrum Income
Spectrum International
Target 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060

BOND

Taxable
Corporate Income
Credit Opportunities
Dynamic Global Bond
Emerging Markets Bond
Emerging Markets Corporate Bond
Emerging Markets Local Currency Bond
Floating Rate
Global High Income Bond
Global Multi-Sector Bond
GNMA
High Yield[1]
Inflation Protected Bond
International Bond
International Bond (USD Hedged)
Limited Duration Inflation Focused Bond
New Income
Short-Term Bond
Total Return
Ultra Short-Term Bond
U.S. Bond Enhanced Index
U.S. High Yield
U.S. Treasury Intermediate
U.S. Treasury Long-Term

Tax-Free[4]
CA, GA, MD, NJ, NY, VA Tax-Free Bond
Intermediate Tax-Free High Yield
MD Short-Term Tax-Free Bond
Summit Municipal Income[3]
Summit Municipal Intermediate[3]
Tax-Free High Yield
Tax-Free Income
Tax-Free Short-Intermediate

MONEY MARKET

Taxable
Cash Reserves[5]
Government Money[6]
U.S. Treasury Money[6]

Tax-Free[4]
CA, MD, NY Tax-Free Money[5]
Summit Municipal Money Market[3,5]
Tax-Exempt Money[5]

[1]Closed to new investors except for a direct rollover from a retirement plan into a T. Rowe Price IRA invested in this fund. [2]Formerly Media & Telecommunications. [3]$25,000 minimum. [4]Certain tax-free funds may not be appropriate for tax-deferred investments, including individual retirement accounts (IRAs).

[5]Retail Funds: **You could lose money by investing in the Fund. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it cannot guarantee it will do so. Beginning October 14, 2016, the Fund may impose a fee upon the sale of your shares or may temporarily suspend your ability to sell shares if the Fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.**

[6]Government Funds: **You could lose money by investing in the Fund. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it cannot guarantee it will do so. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.**

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